



accordance with 10 CFR 835 and additional criteria provided in SRD Volume II, Chapter 2.0, “Radiological and Process Standards,” and Chapter 5.0 “Radiation Protection” (BNFL 1997d).

These features are provided in a manner that facilitates transition to the NRC as the regulator, including the need to comply with the requirements of 10 CFR 20, “Standards for Protection Against Radiation.”

~~A set of~~ Radiation protection ~~drawings is prepared showing the~~ features such as facility zoning, and the minimum shielding requirements, and access control features will be documented on applicable. ~~The requirements are incorporated into the~~ facility layout drawings and ~~civil and structural~~ other design documents. These documents are reviewed to ensure that the requirements are met. Details, such as penetrations are analyzed to ensure that potential streaming paths are identified and properly shielded.

**3.9.1.3 Radiation Monitoring.** Fixed area radiation monitoring is provided in areas where the area exposure rates may change suddenly. These sudden changes may be a result of process operation or maintenance activities. Continuous air monitors are provided in accessible locations where concentrations of airborne radionuclides may vary. Air sampling capability is also provided. Effluent sampling is provided as necessary to demonstrate compliance with regulations. The radiation monitoring locations ~~are~~ will be shown on ~~the radiation protection~~ drawings developed during detailed design.

### **3.9.2 ALARA Design**

Project procedures are established to implement an ALARA program. These procedures include guidance on ALARA design considerations appropriate to the facility and delineate the ALARA design responsibilities of individuals on the project. The ALARA guidance is derived from operating experience at the BNFL Sellafield Site and from industry standards such as NRC Regulatory Guide 8.8, *Information Relevant to Ensuring that Occupational Radiation Exposures at Nuclear Power Stations will be As Low as is Reasonably Achievable* (NRC 1978). The BNFL corporate program for ALARA is documented in the company Health and Safety Manual Code of Practice #20, “Application of ALARA to the Routine Radiation Exposure of Workers and the Public.” The ALARA guidance addresses considerations for reducing exposures within the TWRS-P Facility from operations and from final decommissioning activities. It also addresses considerations for reducing effluents from the TWRS-P Facility.

ALARA design criteria and ALARA design considerations are provided to project staff in controlled documents. These criteria and considerations are arranged by topic area (for example, General Criteria, Dose Criteria, Environmental Criteria, Facility Arrangement Considerations, Shielding Considerations, System Design Considerations, etc.). Design engineers are responsible for implementing and documenting ALARA design criteria and ALARA design considerations in their work. Supervisors are responsible for ensuring that individuals in the group are trained in ALARA criteria and considerations, and for reviewing designs against those criteria and consideration. The Configuration Management program also requires an ALARA review of proposed changes to the facility.

Periodic interdisciplinary project ALARA reviews are conducted to ensure that ALARA concepts are being integrated into the design and to discuss implementation of the ALARA design goal and the rationale for exceptions from specific ALARA design considerations.